

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Revision: 04.10.2011

Printing date 01.07.2013

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**  
Trade name **4-Bromostyrene**  
Stock number: A17896, L09639  
CAS Number: 2039-82-9  
EC number: 218-022-6

**1.2 Relevant identified uses of the substance or mixture and uses advised against.**  
Identified use: SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**  
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG  
A Johnson Matthey Company  
Zeppelinstr. 7b  
76185 Karlsruhe / Germany  
Tel: +49 (0) 721 84007 280  
Fax: +49 (0) 721 84007 300  
Email: tech@alfa.com  
www.alfa.com  
Product safety Tel + +049 (0) 7275 988687-0

**Informing department:** Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)  
**1.4 Emergency telephone number:** Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**  
Classification according to Regulation (EC) No 1272/2008



GHS07  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2 H319 Causes serious eye irritation.  
STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

**Information concerning particular hazards for human and environment:** Not applicable

**Other hazards that do not result in classification** No information known.

**2.2 Label elements**  
Labelling according to Regulation (EC) No 1272/2008

**Hazard pictograms**  
**Signal word**  
**Hazard statements**

**Precautionary statements**

The substance is classified and labelled according to the CLP regulation.

GHS07

Warning

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

CAS# Designation: 2039-82-9 4-Bromostyrene

Identification number(s):

EC number: 218-022-6

Impurities and stabilising additives: Stabilised with:  
4-tert-Butylcatechol (CAS# 98-29-3)

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**  
After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.  
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.  
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek medical treatment.

**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

**5.2 Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide  
Hydrogen bromide (HBr)

**5.3 Advice for firefighters**

Protective equipment:

Wear self-contained breathing apparatus.  
Wear full protective suit.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Revision: 04.10.2011

Printing date 01.07.2013

**Trade name 4-Bromostyrene**

<b>6.2 Environmental precautions:</b>	Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.	(Contd. of page 1)
<b>6.3 Methods and material for containment and cleaning up:</b>	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.	
<b>Prevention of secondary hazards:</b>	Keep away from ignition sources.	
<b>6.4 Reference to other sections</b>	See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.	

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling** Keep containers tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.

**Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

**7.2 Conditions for safe storage, including any incompatibilities**

**Storage Requirements to be met by storerooms and containers:** Refrigerate

**Information about storage in one common storage facility:** Store away from strong bases.  
Store away from halogens.  
Protect from heat.

**Further information about storage conditions:** Keep container tightly sealed.  
Refrigerate

**7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

**Additional information about design of technical systems:** Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**8.1 Control parameters**

**Components with critical values that require monitoring at the workplace:** Not required.  
**Additional information:** No data

**8.2 Exposure controls**

**Personal protective equipment** The usual precautionary measures should be adhered to in handling the chemicals.  
**General protective and hygienic measures** Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use breathing protection with high concentrations.  
**Protection of hands:** Check protective gloves prior to each use for their proper condition.  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Material of gloves:** Impervious gloves  
**Penetration time of glove material:** Not determined  
**Eye protection:** Safety glasses  
Face protection  
**Body protection:** Protective work clothing.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information**

**Appearance:**  
**Form:** Liquid  
**Colour:** Pale yellow  
**Smell:** Not determined  
**Odour threshold:** Not determined.  
**pH-value:** Not determined.

**Change in condition**  
**Melting point/Melting range:** 3-6 °C  
**Boiling point/Boiling range:** 88-89 °C (16 mm Hg)  
**Sublimation temperature / start:** Not determined

**Flash point:** 75 °C  
**Inflammability (solid, gaseous):** Not applicable.  
**Ignition temperature:** Not determined  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Not determined.

**Danger of explosion:** Product is not explosive.  
**Critical values for explosion:**  
**Lower:** Not determined  
**Upper:** Not determined  
**Steam pressure:** Not determined  
**Density at 20 °C:** 1,4 g/cm<sup>3</sup>  
**Relative density:** Not determined.  
**Vapour density:** Not determined.  
**Evaporation rate:** Not determined.  
**Solubility in / Miscibility with**  
**Water:** Not miscible or difficult to mix  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
**dynamic:** Not determined.  
**kinematic:** Not determined.  
**9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No information known.

(Contd. on page 3)  
DE/E

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Revision: 04.10.2011

Printing date 01.07.2013

**Trade name 4-Bromostyrene**

<b>10.2 Chemical stability</b>	Stable under recommended storage conditions.	(Contd. of page 2)
<b>Thermal decomposition / conditions to be avoided:</b>	No decomposition if used and stored according to specifications.	
<b>10.3 Possibility of hazardous reactions</b>	No dangerous reactions known	
<b>10.5 Incompatible materials:</b>	Oxidizing agents Bases Halogens Heat	
<b>10.6 Hazardous decomposition products:</b>	Carbon monoxide and carbon dioxide Hydrogen bromide	

**SECTION 11: Toxicological information**

<b>11.1 Information on toxicological effects</b>	
<b>Acute toxicity:</b>	No effects known.
<b>LD/LC50 values that are relevant for classification:</b>	No data
<b>Skin irritation or corrosion:</b>	Causes skin irritation.
<b>Eye irritation or corrosion:</b>	Causes serious eye irritation.
<b>Sensitization:</b>	No sensitizing effect known.
<b>Germ cell mutagenicity:</b>	No effects known.
<b>Carcinogenicity:</b>	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
<b>Reproductive toxicity:</b>	No effects known.
<b>Specific target organ system toxicity - repeated exposure:</b>	No effects known.
<b>Specific target organ system toxicity - single exposure:</b>	May cause respiratory irritation.
<b>Aspiration hazard:</b>	No effects known.
<b>Additional toxicological information:</b>	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**SECTION 12: Ecological information**

<b>12.1 Toxicity</b>	
<b>Aquatic toxicity:</b>	No further relevant information available.
<b>12.2 Persistence and degradability</b>	No further relevant information available.
<b>12.3 Bioaccumulative potential</b>	No further relevant information available.
<b>12.4 Mobility in soil</b>	No further relevant information available.
<b>Additional ecological information:</b>	
<b>General notes:</b>	Do not allow material to be released to the environment without proper governmental permits. Generally not hazardous for water. Avoid transfer into the environment.
<b>12.5 Results of PBT and vPvB assessment</b>	
<b>PBT:</b>	Not applicable.
<b>vPvB:</b>	Not applicable.
<b>12.6 Other adverse effects</b>	No further relevant information available.

**SECTION 13: Disposal considerations**

<b>13.1 Waste treatment methods</b>	
<b>Recommendation</b>	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
<b>Uncleaned packagings:</b>	
<b>Recommendation:</b>	Disposal must be made according to official regulations.

**SECTION 14: Transport information**

<b>UN-Number</b>	
<b>ADR, ADN, IMDG, IATA</b>	Not applicable
<b>14.2 UN proper shipping name</b>	
<b>ADR, ADN, IMDG, IATA</b>	Not applicable
<b>14.3 Transport hazard class(es)</b>	
<b>ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Not applicable
<b>Packing group</b>	
<b>ADR, IMDG, IATA</b>	Not applicable
<b>14.5 Environmental hazards:</b>	Not applicable.
<b>14.6 Special precautions for user</b>	Not applicable.
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>UN "Model Regulation":</b>	-

**SECTION 15: Regulatory information**

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<b>Australian Inventory of Chemical Substances</b>	Substance is not listed.
<b>Standard for the Uniform Scheduling of Drugs and Poisons</b>	Substance is not listed.
<b>National regulations</b>	
<b>Information about limitation of use:</b>	For use only by technically qualified individuals. Employment restrictions concerning young persons must be observed.
<b>Water hazard class:</b>	Generally not hazardous for water.
<b>Other regulations, limitations and prohibitive regulations</b>	
<b>ELINCS (European List of Notified Chemical Substances)</b>	Substance is not listed.
<b>Substances of very high concern (SVHC) according to REACH, Article 57</b>	Substance is not listed.
<b>REACH - Pre-registered substances</b>	Substance is listed.
<b>15.2 Chemical safety assessment:</b>	A Chemical Safety Assessment has not been carried out.

DE/E  
(Contd. on page 4)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 04.10.2011

Trade name **4-Bromostyrene**

(Contd. of page 3)

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organization  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

DE/E